# Date created, 02/23/2018 - Subject to change. © Belimo Aircontrols (USA), Inc.

# B224VSS, 2-Way, Ball Valve Stainless Steel Body, Ball and Stem

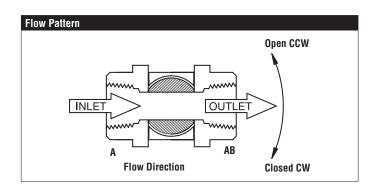








Technical Data	
Service	chilled or hot water, up to 60% glycol,
	steam
Flow Characteristic	modified equal percentage
Controllable Flow Range	90° rotation, A to AB open CCW, B to AB
	open CW
Size [mm]	1" [25]
End Fitting	sae npt (female connections)
Body	A351-CF8M 316 Stainless Steel
Body Seal	PTFE
Ball	316 stainless steel
Gland	A276-316
Stem	316 stainless steel
Stem Packing	reinforced PTFE
Stem Bearing	reinforced PTFE
Jam Nut	stainless steel
Seat	reinforced PTFE w/ Durafill
Body Pressure Rating [psi]	1500 psig WOG
Max Inlet Pressure (Steam)	50 psi
Media Temperature Range	-22°F to 298°F [-30°C to 148°C]
(Water)	50 .
Maximum Differential Pressure	50 psi
(Steam) Max Differential Pressure (Water)	<600 psig
Close-Off Pressure	
	1000 psi
Maximum Velocity	15 FPS
Cv	43
Weight	1.8 lb [0.8 kg]
Leakage	ANSI Class VI



## **Application**

These threaded valves are designed to provide modulating or two position control of hot or chilled water and saturated steam systems under 50 psi. Typical applications include reheat coils, VAV terminal control, unit ventilators, and air handlers, especially in areas which have minimum profile requirements. Up to 50 psi steam

1/2" - 2000 PSIG WOG, Cold Non-Shock Federal Specification: WW-V-35C, Type II

Composition: SS

Style: 3

### Suitable Actuators

Outtubic Adductors		
	Non-Spring	Spring
B224VSS	AMB(X), SY1	AFB(X)





Power Supply       24 VAC, ±20%, 50/60 Hz, 24 VDC, -10% / ±20%         Power Consumption Running       7.5 W         Power Consumption Holding       3 W         Transformer Sizing       10 VA (class 2 power source)         Electrical Connection       18 GA applicance rated cable with 1/2" conduit connector protected NEMA 2 (IP54) 3ft [1m] 10ft [3m] and 16ft [5m]         Overload Protection       electronic throughout 0° to 95° rotation         Operating Range Y       0 to 135 Ω Honeywell Electronic Series 90, 0 to 135 Ω input         Feedback Output U       2 to 10 VDC, 0.5 mA max, VDC variable         Angle of Rotation       95°, adjustable with mechanical end stop, 35° to 95°         Torque motor       Min. 180 in-lbs [20 Nm]         Direction of Rotation (Motor)       reversible with built-in switch         Direction of Rotation (Fail-Safe)       reversible with CW/CCW mounting         Position Indication       visual indicator, 0° to 95° (0° is full spring return position)         Manual Override       5 mm hex crank (3/16" Allen), supplied         Running Time (Motor)       150 sec         Running Time (Fail-Safe)       <20 sec         Override Control       min. position = 0%, mid. Position = 50%, max. position = 100% (Default)         Ambient Humidity       max. 95% RH non-condensing         Ambient Temperature Range       -22°F to 122°F [-30°C t	Technical Data	
Power Consumption Running         7.5 W           Power Consumption Holding         3 W           Transformer Sizing         10 VA (class 2 power source)           Electrical Connection         18 GA applicance rated cable with 1/2" conduit connector protected NEMA 2 (IP54) 3ft [1m] 10ft [3m] and 16ft [5m]           Overload Protection         electronic throughout 0° to 95° rotation           Operating Range Y         0 to 135 Ω Honeywell Electronic Series 90, 0 to 135 Ω input           Feedback Output U         2 to 10 VDC, 0.5 mA max, VDC variable           Angle of Rotation         95°, adjustable with mechanical end stop, 35° to 95°           Torque motor         Min. 180 in-lbs [20 Nm]           Direction of Rotation (Motor)         reversible with built-in switch           Direction of Rotation (Fail-Safe)         reversible with CW/CCW mounting           Position Indication         visual indicator, 0° to 95° (0° is full spring return position)           Manual Override         5 mm hex crank (3/16" Allen), supplied           Running Time (Motor)         150 sec           Running Time (Fail-Safe)         <20 sec	Power Supply	24 VAC, ±20%, 50/60 Hz, 24 VDC, -10% /
Power Consumption Holding         3 W           Transformer Sizing         10 VA (class 2 power source)           Electrical Connection         18 GA applicance rated cable with 1/2" conduit connector protected NEMA 2 (IP54) 3ft [1m] 10ft [3m] and 16ft [5m]           Overload Protection         electronic throughout 0° to 95° rotation           Operating Range Y         0 to 135 $\Omega$ Honeywell Electronic Series 90, 0 to 135 $\Omega$ input           Feedback Output U         2 to 10 VDC, 0.5 mA max, VDC variable           Angle of Rotation         95°, adjustable with mechanical end stop, 35° to 95°           Torque motor         Min. 180 in-lbs [20 Nm]           Direction of Rotation (Motor)         reversible with built-in switch           Direction of Rotation (Fail-Safe)         reversible with CW/CCW mounting           Position Indication         visual indicator, 0° to 95° (0° is full spring return position)           Manual Override         5 mm hex crank (3/16" Allen), supplied           Running Time (Motor)         150 sec           Running Time (Fail-Safe)         <20 sec		1-277
Transformer Sizing  Electrical Connection  18 GA applicance rated cable with 1/2" conduit connector protected NEMA 2 (IP54) 3ft [1m] 10ft [3m] and 16ft [5m]  Overload Protection  Operating Range Y  O to 135 Ω Honeywell Electronic Series 90, 0 to 135 Ω Honeywell Electronic Series 90, 0 to 135 Ω input  Feedback Output U  Angle of Rotation  Operating Range Y  Torque motor  Min. 180 in-lbs [20 Nm]  Direction of Rotation (Motor)  Direction of Rotation (Fail-Safe)  Position Indication  Manual Override  Running Time (Motor)  Tos sec  Running Time (Fail-Safe)  Override Control  Min. position = 0%, mid. Position = 50%, max. position = 100% (Default)  Ambient Humidity  Ambient Temperature Range  Ambient Temperature Range  -40°F to 176°F [-40°C to 80°C]  Housing Material  Agency Listings†  CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor)  Reverence  18 GA applicance rated cable with 1/2"  conduit connector protected NEMA 2 (IP54)  3ft [1m] 10ft [3m] and 16ft [5m]  Other 10ft [5m]  Other 10f		7.5 W
Electrical Connection		3 W
	Transformer Sizing	10 VA (class 2 power source)
$ \begin{array}{c} 3ft \ [1m] \ 10ft \ [3m] \ and \ 16ft \ [5m] \\ \hline Overload \ Protection & electronic throughout 0° to 95° rotation \\ \hline Operating \ Range \ Y & 0 to 135 \ \Omega \ Honeywell \ Electronic \ Series 90, 0 to 135 \ \Omega \ input \\ \hline Feedback \ Output \ U & 2 to 10 \ VDC, 0.5 \ mA \ max, \ VDC \ variable \\ \hline Angle \ of \ Rotation & 95°, \ adjustable \ with \ mechanical \ end \ stop, 35° to 95° \\ \hline Torque \ motor & Min. \ 180 \ in-lbs \ [20 \ Nm] \\ \hline Direction \ of \ Rotation \ (Motor) & reversible \ with \ built-in \ switch \\ \hline Direction \ of \ Rotation \ (Fail-Safe) & reversible \ with \ CW/CCW \ mounting \\ \hline Position \ Indication & visual \ indicator, 0° to 95° \ (0° is \ full \ spring \ return \ position) \\ \hline Manual \ Override & 5 \ mm \ hex \ crank \ (3/16" \ Allen), \ supplied \\ \hline Running \ Time \ (Motor) & 150 \ sec \\ \hline Running \ Time \ (Fail-Safe) & <20 \ sec \\ \hline Override \ Control & min. \ position = 0% \ , \ mid. \ Position = 50% \ , \ max. \ position = 100% \ (Default) \\ \hline Ambient \ Humidity & max. \ 95\% \ RH \ non-condensing \\ \hline Ambient \ Temperature \ Range & -40°F \ to 176°F \ [-40°C \ to 80°C] \\ \hline Housing & NEMA \ 2, \ IP54, \ UL \ Enclosure \ Type \ 2 \\ \hline Housing \ Material & zinc \ coated \ metal \ and \ plastic \ casing \\ \hline Agency \ Listings \ & CULus \ acc. \ to \ UL60730-1A/-2-14, \ CAN/CSA \ E60730-1:02, \ CE \ acc. \ to \ 2004/108/EC \\ \hline Noise \ Level \ (Motor) & <40 \ dB \ (A) \\ \hline Noise \ Level \ (Fail-Safe) & <62 \ dB \ (A) \\ \hline Servicing & maintenance \ free \\ \hline \ Quality \ Standard & \ ISO \ 9001 \\ \hline \end{array}$	Electrical Connection	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		
Operating Range Y $0$ to $135 \Omega$ Honeywell Electronic Series 90, 0 to $135 \Omega$ input  Feedback Output U $2$ to $10 \text{ VDC}$ , $0.5 \text{ mA}$ max, VDC variable  Angle of Rotation $95^\circ$ , adjustable with mechanical end stop, $35^\circ$ to $95^\circ$ Torque motor $0$ Min. $180 \text{ in-lbs}$ [ $20 \text{ Nm}$ ]  Direction of Rotation (Motor) reversible with built-in switch  Direction of Rotation (Fail-Safe) reversible with CW/CCW mounting  Position Indication visual indicator, $0^\circ$ to $95^\circ$ ( $0^\circ$ is full spring return position)  Manual Override $0$ 5 mm hex crank ( $0$ /16" Allen), supplied  Running Time (Motor) $0$ 150 sec  Running Time (Fail-Safe) $0$ 20 sec  Override Control min. position $0$ 90%, mid. Position $0$ 95%, max. position $0$ 100% (Default)  Ambient Humidity max. $0$ 95% RH non-condensing  Ambient Temperature Range $0$ 22°F to $0$ 122°F $0$ 130°C to $0$ 50°C $0$ 150 Storage Temperature Range $0$ 40°F to $0$ 176°F $0$ 140°C to $0$ 80°C $0$ 160 Housing Material vincondated and plastic casing Agency Listings† $0$ CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to $0$ 2004/108/EC  Noise Level (Motor) $0$ 40 dB (A)  Noise Level (Fail-Safe) $0$ 40°C dB (A)  Servicing maintenance free		
to 135 Ω input  Feedback Output U  Angle of Rotation  95°, adjustable with mechanical end stop, 35° to 95°  Torque motor  Min. 180 in-lbs [20 Nm]  Direction of Rotation (Motor)  Direction of Rotation (Fail-Safe)  Position Indication  Manual Override  Running Time (Motor)  Eversible with cw/CCW mounting  visual indicator, 0° to 95° (0° is full spring return position)  Manual Override  Running Time (Motor)  Running Time (Fail-Safe)  Override Control  Manual Override  Ambient Humidity  Ambient Temperature Range  -22°F to 122°F [-30°C to 50°C]  Storage Temperature Range  Housing  NEMA 2, IP54, UL Enclosure Type 2  Housing Material  Agency Listings†  CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor)  Noise Level (Fail-Safe)  Quality Standard  Value Noise Level (Fail-Safe)  150 130 VDC, 0.5 mA max, VDC variable  With max, VDC variable  95°, adjustable with mechanical end stop, 35° to 95°  Min. 180 in-lbs [20 Nm]  reversible with cwith mechanical end stop, 35° to 95°  (or is full spring  return position  visual indicator, 0° to 95° (0° is full spring  return position)  Nanual Override  5 mm hex crank (3/16" Allen), supplied  70° to 95° (0° is full spring  return position  News crank (3/16" Allen), supplied  Running  News crank (3/16" Allen), supplied  Running  Running Time (Fail-Safe)  -20 sec  Override Control  Min. position = 0%, mid. Position = 50%, max. position = 100% (Default)  Ambient Temperature Range  -22°F to 122°F [-30°C to 50°C]  Storage Temperature Range  -22°F to 122°F [-30°C to 50°C]  Storage Temperature Range  -40°F to 176°F [-40°C to 80°C]  ULL acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC		_
Angle of Rotation  95°, adjustable with mechanical end stop, 35° to 95°  Torque motor  Min. 180 in-lbs [20 Nm]  Direction of Rotation (Motor)  Position Indication  Manual Override  Running Time (Motor)  Sec  Running Time (Fail-Safe)  Override Control  Ambient Humidity  Ambient Temperature Range  Storage Temperature Range  Housing  NEMA 2, IP54, UL Enclosure Type 2  Housing Material  Agency Listings†  CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor)  Rin. 180 in-lbs [20 Nm]  reversible with Dwilt-in switch  preversible with built-in switch  preversible with built-in switch  preversible with built-in switch  preversible with built-in switch  preversible with mechanical end stop, 35° to 95°  Min. 180 in-lbs [20 Nm]  reversible with mechanical end stop, 35° to 95°  (or is full spring  return position, or to 95° (0° is full spring  return position position position position position position position position	Operating Range Y	
Torque motor Min. 180 in-lbs [20 Nm]  Direction of Rotation (Motor) reversible with built-in switch  Direction of Rotation (Fail-Safe) reversible with CW/CCW mounting  Position Indication visual indicator, 0° to 95° (0° is full spring return position)  Manual Override 5 mm hex crank (3/16" Allen), supplied  Running Time (Motor) 150 sec  Running Time (Fail-Safe) <20 sec  Override Control min. position = 0%, mid. Position = 50%, max. position = 100% (Default)  Ambient Humidity max. 95% RH non-condensing  Ambient Temperature Range -22°F to 122°F [-30°C to 50°C]  Storage Temperature Range -40°F to 176°F [-40°C to 80°C]  Housing NEMA 2, IP54, UL Enclosure Type 2  Housing Material zinc coated metal and plastic casing  Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A)  Noise Level (Fail-Safe) <62 dB (A)  Servicing maintenance free  Quality Standard ISO 9001	Feedback Output U	2 to 10 VDC, 0.5 mA max, VDC variable
Direction of Rotation (Motor)  Direction of Rotation (Fail-Safe)  Position Indication  Manual Override  Running Time (Motor)  Override Control  Ambient Humidity  Ambient Temperature Range  Storage Temperature Range  Housing  NEMA 2, IP54, UL Enclosure Type 2  Housing Material  Agency Listings†  CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor)  Position (Fail-Safe)  visual indicator, 0° to 95° (0° is full spring return position)  visual indicator, 0° to 95° (0° is full spring return position)  visual indicator, 0° to 95° (0° is full spring return position)  visual indicator, 0° to 95° (0° is full spring return position)  Tomacrank (3/16" Allen), supplied  The Mexican position = 0%, mid. Position = 50%, max. position = 100% (Default)  Manual Override  Time (Motor)  NEMA 2, IP54, UL Enclosure Type 2  Thousing Material  Time (Fail-Safe)  CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor)  Noise Level (Fail-Safe)  Godd B (A)  Servicing  Maintenance free  Quality Standard	Angle of Rotation	
Direction of Rotation (Fail-Safe) reversible with CW/CCW mounting  Position Indication visual indicator, 0° to 95° (0° is full spring return position)  Manual Override 5 mm hex crank (3/16" Allen), supplied  Running Time (Motor) 150 sec  Running Time (Fail-Safe) <20 sec  Override Control min. position = 0%, mid. Position = 50%, max. position = 100% (Default)  Ambient Humidity max. 95% RH non-condensing  Ambient Temperature Range -22°F to 122°F [-30°C to 50°C]  Storage Temperature Range -40°F to 176°F [-40°C to 80°C]  Housing NEMA 2, IP54, UL Enclosure Type 2  Housing Material zinc coated metal and plastic casing  Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A)  Noise Level (Fail-Safe) <62 dB (A)  Servicing maintenance free  Quality Standard	Torque motor	Min. 180 in-lbs [20 Nm]
Position Indication visual indicator, 0° to 95° (0° is full spring return position)  Manual Override 5 mm hex crank (3/16" Allen), supplied  Running Time (Motor) 150 sec  Running Time (Fail-Safe) <20 sec  Override Control min. position = 0%, mid. Position = 50%, max. position = 100% (Default)  Ambient Humidity max. 95% RH non-condensing  Ambient Temperature Range -22°F to 122°F [-30°C to 50°C]  Storage Temperature Range -40°F to 176°F [-40°C to 80°C]  Housing NEMA 2, IP54, UL Enclosure Type 2  Housing Material zinc coated metal and plastic casing  Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A)  Noise Level (Fail-Safe) <62 dB (A)  Servicing maintenance free  Quality Standard	Direction of Rotation (Motor)	reversible with built-in switch
return position)  Manual Override 5 mm hex crank (3/16" Allen), supplied  Running Time (Motor) 150 sec  Running Time (Fail-Safe) <20 sec  Override Control min. position = 0%, mid. Position = 50%, max. position = 100% (Default)  Ambient Humidity max. 95% RH non-condensing  Ambient Temperature Range -22°F to 122°F [-30°C to 50°C]  Storage Temperature Range -40°F to 176°F [-40°C to 80°C]  Housing NEMA 2, IP54, UL Enclosure Type 2  Housing Material zinc coated metal and plastic casing  Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A)  Noise Level (Fail-Safe) <62 dB (A)  Servicing maintenance free  Quality Standard ISO 9001	Direction of Rotation (Fail-Safe)	reversible with CW/CCW mounting
Manual Override 5 mm hex crank (3/16" Allen), supplied Running Time (Motor) 150 sec  Running Time (Fail-Safe) <20 sec  Override Control min. position = 0%, mid. Position = 50%, max. position = 100% (Default)  Ambient Humidity max. 95% RH non-condensing  Ambient Temperature Range -22°F to 122°F [-30°C to 50°C]  Storage Temperature Range -40°F to 176°F [-40°C to 80°C]  Housing NEMA 2, IP54, UL Enclosure Type 2  Housing Material zinc coated metal and plastic casing  Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A)  Noise Level (Fail-Safe) <62 dB (A)  Servicing maintenance free  Quality Standard ISO 9001	Position Indication	visual indicator, 0° to 95° (0° is full spring
Running Time (Motor) Running Time (Fail-Safe)  Override Control  min. position = 0%, mid. Position = 50%, max. position = 100% (Default)  Ambient Humidity  Ambient Temperature Range Storage Temperature Range  -40°F to 176°F [-40°C to 80°C]  Housing  NEMA 2, IP54, UL Enclosure Type 2  Housing Material  Agency Listings†  CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor)  Noise Level (Fail-Safe)  Quality Standard  150 sec  min. position = 0%, mid. Position = 50%, max. position = 50%, max. position = 40% c Honorous position = 50%, max. position = 100% (Default)  Ambient Temperature Range  -22°F to 122°F [-30°C to 50°C]  NEMA 2, IP54, UL Enclosure Type 2  LULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor)  <40 dB (A) Noise Level (Fail-Safe) <62 dB (A) Servicing  maintenance free  Quality Standard		
Running Time (Fail-Safe) <20 sec  Override Control min. position = 0%, mid. Position = 50%, max. position = 100% (Default)  Ambient Humidity max. 95% RH non-condensing  Ambient Temperature Range -22°F to 122°F [-30°C to 50°C]  Storage Temperature Range -40°F to 176°F [-40°C to 80°C]  Housing NEMA 2, IP54, UL Enclosure Type 2  Housing Material zinc coated metal and plastic casing  Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A)  Noise Level (Fail-Safe) <62 dB (A)  Servicing maintenance free  Quality Standard ISO 9001	Manual Override	5 mm hex crank (3/16" Allen), supplied
Override Control  min. position = 0% , mid. Position = 50% , max. position = 100% (Default)  Ambient Humidity  Ambient Temperature Range  -22°F to 122°F [-30°C to 50°C]  Storage Temperature Range  -40°F to 176°F [-40°C to 80°C]  Housing  NEMA 2, IP54, UL Enclosure Type 2  Housing Material  Zinc coated metal and plastic casing  Agency Listings†  CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor)  Noise Level (Fail-Safe)  Servicing  maintenance free  Quality Standard	· · · · · ·	150 sec
max. position = 100% (Default)  Ambient Humidity max. 95% RH non-condensing  Ambient Temperature Range -22°F to 122°F [-30°C to 50°C]  Storage Temperature Range -40°F to 176°F [-40°C to 80°C]  Housing NEMA 2, IP54, UL Enclosure Type 2  Housing Material zinc coated metal and plastic casing  Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A)  Noise Level (Fail-Safe) <62 dB (A)  Servicing maintenance free  Quality Standard ISO 9001	,	<20 sec
Ambient Humidity max. 95% RH non-condensing Ambient Temperature Range -22°F to 122°F [-30°C to 50°C] Storage Temperature Range -40°F to 176°F [-40°C to 80°C] Housing NEMA 2, IP54, UL Enclosure Type 2 Housing Material zinc coated metal and plastic casing Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A) Noise Level (Fail-Safe) <62 dB (A) Servicing maintenance free  Quality Standard ISO 9001	Override Control	
Ambient Temperature Range		
Storage Temperature Range -40°F to 176°F [-40°C to 80°C] Housing NEMA 2, IP54, UL Enclosure Type 2 Housing Material zinc coated metal and plastic casing Agency Listings† CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A) Noise Level (Fail-Safe) <62 dB (A) Servicing maintenance free  Quality Standard ISO 9001		5
Housing NEMA 2, IP54, UL Enclosure Type 2 Housing Material zinc coated metal and plastic casing Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A)  Noise Level (Fail-Safe) <62 dB (A)  Servicing maintenance free  Quality Standard ISO 9001		
Housing Material zinc coated metal and plastic casing  Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A)  Noise Level (Fail-Safe) <62 dB (A)  Servicing maintenance free  Quality Standard ISO 9001	0 1	
Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A)  Noise Level (Fail-Safe) <62 dB (A)  Servicing maintenance free  Quality Standard ISO 9001		
E60730-1:02, CE acc. to 2004/108/EC  Noise Level (Motor) <40 dB (A)  Noise Level (Fail-Safe) <62 dB (A)  Servicing maintenance free  Quality Standard ISO 9001	Housing Material	
Noise Level (Fail-Safe) <62 dB (A) Servicing maintenance free Quality Standard ISO 9001	Agency Listings†	
Servicing maintenance free  Quality Standard ISO 9001	Noise Level (Motor)	<40 dB (A)
Quality Standard ISO 9001	Noise Level (Fail-Safe)	<62 dB (A)
	Servicing	maintenance free
Weight 4.6 lb [2.1 kg]	Quality Standard	ISO 9001
	Weight	4.6 lb [2.1 kg]

<sup>\*</sup>Variable when configured with MFT options. †Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3







### Wiring Diagrams



### WARNING! LIVE ELECTRICAL COMPONENTS!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.



Meets cULus requirements without the need of an electrical ground connection



Provide overload protection and disconnect as required.



Actuators may also be powered by 24 VDC.



Actuators and controller must have separate transformers.

Consult controller instruction data for more detailed information.



Resistor value depends on the type of controller and the number of actuators. No resistor is used for one actuator. Honeywell® resistor kits may also be used.



To reverse control rotation, use the reversing switch.



Actuators may be controlled in parallel. Current draw and input impedance must be observed.

